

ECONOMIC AND SOCIAL COUNCIL

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Item 5 of the provisional agenda\*  
Report of the Permanent Committee on Geographical Information  
System Infrastructure for Asia and the Pacific**

**REPORT OF THE WORKING GROUP 2: REGIONAL FUNDAMENTAL DATA**

**Submitted by the Permanent Committee on Geographical Information  
System Infrastructure for Asia and the Pacific (PCGIAP)  
Working Group 2: Regional Fundamental Data \*\***

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**Permanent Committee on GIS Infrastructure for Asia and the Pacific**

**Working Group 2**

**Regional Fundamental Data**

***STATUS REPORT***

**For 17<sup>th</sup> United Nations Regional Cartographic Conference  
and 12<sup>th</sup> PCGIAP Meeting**

**Bangkok, Thailand**

**18-22 September 2006**

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# **1 Resolutions Adopted in Pervious Meetings and Workshops held during 2003-2006 period:**

## **1.1 Resolution No. 3 Adopted at the 16th UNRCC-AP Okinawa, Japan, July 2003:**

### **Fundamental Data**

#### Recognizing:

- The policy for sharing of fundamental data endorsed at the 15th UNRCC-AP,
- The progress made by PCGIAP Working Group 2 (Fundamental Data) on regional fundamental data sets, and
- The progress made by Global Mapping, such as the recent release of the data sets for six additional countries bringing the total number of countries to 18, the availability of Global Map data on the web and the development of a web portal,

#### Recommends

- The endorsement of the PCGIAP Policy Statement for Asia-Pacific Boundaries Dataset, and the PCGIAP Basic Principles for Developing and Utilizing the AP Regional Fundamental Dataset, and
- PCGIAP continue to develop regional fundamental data sets, clearinghouse and GIS applications, in particular:
  - Starting the development of a pan Asia-Pacific regional fundamental dataset, which contributes to Global Map, and encouraging member nations not contributing to the Global Mapping project to consider participation in the project with the assistance of ISCGM and PCGIAP,
  - Implementing APSDI clearinghouse, and member nations or regions be encouraged to establish their APSDI data node, and put their Global Mapping data on their APSDI data node and other fundamental data sets they may wish to include,
  - Encouraging efforts in capacity building in fundamental data, in particular the training program by GSI funded by JICA, and
  - Undertaking these tasks in collaboration with other initiatives, such as Global Map Project; UN Group of Experts on Geographic Names; UN Geographic Information

Working Group, Database Project and Second Administrative Level Boundaries Project.

## **1.2 Resolutions adopted at 10th PCGIAP meeting in Bangalore India January 2004:**

### **Pan Asia-Pacific Datasets**

The Committee resolves to undertake the following work;

- A. To build the pan Asia Pacific administrative boundary dataset using the specification, already drafted by PCGIAP
- B. To examine options and priorities for building other pan Asia Pacific datasets.

### **APSDI Portal**

The Committee resolves,

- A. To build an understanding of the concept of an APSDI Portal for regional fundamental datasets;
- B. To support the development of metadata nodes in the Asia-Pacific region;
- C. To facilitate exchange of information on standards-compliant metadata profiles to underpin APSDI Portal development.

## **1.3 Resolutions adopted at The Join WG1 & WG2 Workshop, China, September 2004:**

### **RESOLUTION 1- Pilot study on Pan Asia-Pacific framework datasets**

*Noting* that creating a framework dataset is one of the objectives of PCGIAP;

#### *Reorganizing*

- the need of a strategic plan for the future APSDI framework data implementation which will justify the benefits of APSDI in such areas as security, trade, environment management, etc.
- integrating and creating a minimum seamless dataset being the major difference between the Pan-AP framework datasets and global map

#### *Recommends*

- to undertake a pilot project to create a seamless framework dataset across a number of countries
- to adopt ISO and international standards to improve the draft technical specification for pan Asia-Pacific framework datasets
- the pilot study adopt an incremental approach by starting from a very simple dataset and flexible standard.
- to set up taskforce for Pan-AP framework datasets, and identify the taskforce members and it's coordinator through the EB and secretariat of PCGIAP

- sufficient resources over a 3 years period be devoted to this pilot project as it will be a major undertaking for PCGIAP
- at least one full-time experienced person be provided by the lead country and at least half a full-time person for each of the participating countries
- trainings and workshops be conducted to promote the work in cooperation with related international organizations and initiatives.

### **RESOLUTION 2 – Endorsement of Guidelines**

WG2 member delegates *agreed* to endorse the Guidelines for APSDI Clearinghouse Development (version 1.2) prepared by the APSDI Data Node and Clearinghouse Task Force as a basis for discussion and development of clearinghouses in member countries in Asia and the Pacific. WG2 thanked the Task Force for its excellent work.

### **RESOLUTION 3 – Support for the establishment of clearinghouse nodes**

WG2 member delegates *recommend* that PCGIAP take a proactive approach to promoting and supporting the establishment of clearinghouse nodes in member countries. As part of this approach WG2 accepts the generous offer of ESRI to run a one week seminar, short course and training session on building SDI portals together with the free provision of appropriate software at a location to be determined in the Asia and Pacific region in the next 6-12 months. The workshop will be run under the auspices of PCGIAP (WG2 and specifically the APSDI Data Node and Clearinghouse Task Force) with the ESRI representative liaising with the Task Force Coordinator Dr Zhou. ESRI will provide the one week training free of charge while attendees will provide their own travel and accommodation. ESRI have agreed to run the workshop in Hong Kong although it can be run in another PCGIAP country if an appropriate location can be identified. PCGIAP will actively promote the workshop and training course to all PCGIAP member countries.

### **RESOLUTION 4 – Re-constitution of APSDI Data Node and Clearinghouse Task Force**

China has *agreed* to continue supporting and coordinating the APSDI Data Node and Clearinghouse Task Force under the leadership of Dr Zhou on condition that a number of PCGIAP countries will actively participate in the Taskforce and be involved in the first phase of the implementation of the APSDI Clearinghouse Portal. Malaysia, Japan, India, Korea, Indonesia, Iran (subject to confirmation) and Australia have agreed to participate in the Taskforce and agree to ensure the designated Taskforce member will actively participate and can attend at least one Taskforce meeting in conjunction with a PCGIAP or WG2 workshop in the next two years. Each Taskforce country will advise Dr Zhou of their designated taskforce member by the end of October, 2004.

### **RESOLUTION 5 – Creation of APSDI Clearinghouse Portal**

As a result of the successful pilot project carried out by the APSDI Data Node and Clearinghouse Task Force, WG2 *recommends* that PCGIAP establish an APSDI Clearinghouse Portal based on a simple metadata profile to be developed and agreed by the re-constituted Task Force and preferably based on ISO

TC211 standard. In addition the Taskforce will determine a minimum number of data sets to be described by metadata and included in each country Clearinghouse node in *English*.

#### **1.4 Resolutions adopted at The 11th PCGIAP Meeting, Bali, Indonesia May 2005:**

##### **Working Group 2 (Fundamental Data) Workshop**

The Committee

*Recognizing* the importance of collaboration with Global Mapping Project,

*Acknowledging* the urgent regional needs for special data,

*Taking into consideration* geodetic data expected from the Extraordinary Geodetic Campaign coordinated by Working Group 1,

*Resolves* to hold a Workshop in Brunei Darussalam during the Executive Board Meeting to be held in November 2005 with an objective of developing special datasets for the tsunami affected areas and an extended dataset of Asia Pacific region.

##### **Development of Asia Pacific Spatial Data Infrastructure(APSIDI) Clearinghouse Portal**

The Committee

*Recognizing* the importance of continued efforts for the APSIDI Clearinghouse Portal development,

*Noting* the needs for increased involvement of member countries for the reconstituted Taskforce in September 2004,

##### *Recommends*

- Member countries to participate in the APSIDI Clearinghouse Taskforce
- Member countries to nominate a Taskforce member to be involved in the first phase of the APSIDI Clearinghouse Portal implementation
- Taskforce members to be in charge of the development and maintenance of their national geoportal

#### **1.5 Resolutions adopted at workshop and EB meeting, Brunei Darussalam November 2005:**



### The Workshop

Recalling the huge disaster linked to the earthquake and the tsunami which happened in the Asia and the Pacific region the 26 Dec.2004, and the necessity to react to such event at the regional level.

Noting the significance of the results obtained from the WG1 Extraordinary Geodetic Campaign,

Recommends that WG2, jointly with WG1, to develop and implement a pilot project for the generation of a set of seamless data layers for the tsunami affected area to contribute to the creation of the AP seamless data set in collaboration with the Global Mapping, SALB and other similar initiatives.

### **Strengthening the linkage between Global Map, SALB and PCGIAP**

Recalling the resolution 3 Fundamental Data adopted by the 16th UNRCC-AP,

Recalling the resolution adopted by the 8th PCGIAP encouraging cooperation on development of SALB dataset,

Noting the important progress of fundamental data development at regional level,

Noting the importance of Global Map and the SALB dataset for Asia and the Pacific region,

Recommends that

- (a) PCGIAP WG2 seek to strengthen the linkage with Global Map, SALB and other similar initiatives
- (b) PCGIAP Member States, particularly through their National Mapping Organizations and notably with the help of PCGIAP, support and participate actively in Global Map and the SALB project by providing the necessary data and information they require.

## **2 Activities undertaken during 2003-2006 period:**

Main tasks (projects) have been approved at pervious Meetings for WG2 and continued since then, are listed below.

### **2.1 Pan Asia-Pacific framework datasets taskforce**

#### Joint Workshop of PCGIAP WG1 & WG2

A joint workshop of PCGIAP WG1 and WG2 was held from September 7 to September 8, 2004 in Chengdu, China. The main objectives of this workshop were:

- to address the status of geodetic datums and availability in all countries for fundamental data and the potential use of regional data nodes as access points for geodetic data

- to discuss the possible establishment of a PCGIAP portal and a pan AP framework data set. About 54 people from 10 countries and regions participated in this workshop. The two days workshop included one opening session, one plenary session and four technical sessions.

At this workshop five resolutions were adopted, including constitution of a new task force for a pilot project of Pan Asia Pacific framework datasets and reconstitution of APSDI Data Node and Clearinghouse Task Force. Further details about these resolutions are released at the beginning of this document.

### WG2 Workshop

A WG 2 workshop held in Brunei Darussalam in November 2005. The main objective of this workshop was:

- to discuss the development of special datasets for the tsunami affected areas and an extended dataset of AP region.

The workshop was successfully organized with presenting seven presentations

- one WG 2 report on seamless AP dataset (Mrs Ji Xiaoyan)
- four presentations from related projects, Global mapping (Mr. H. Maruyama, ISCGM), SALB project (Dr. Steeve Ebener, WHO), Other region's projects (Mr.K. Akeno, GSI), PCGIAP geodetic campaign for Tsunami studies (Mr. S. Matsuzaka, GSI)
- two national reports (Brunei Darussalam, Indonesia)

At this workshop after an intensive discussion two resolutions were adopted. Details about these resolutions are released at the beginning of this document.

### Preparing Draft Technical Specification for Pan Asia-Pacific framework datasets

According to recommendations on the 10th meeting of the PCGIAP held in February 2004, the first draft of Technical Specification for Pan Asia-Pacific framework datasets, Version 1.0, Vector Datasets prepared by NGCC and presented at the.

### WG2 web pages

A draft version of template has been submitted to secretariat based on the draft guidelines for preparation of the WG pages

## **2.2 APSDI Clearinghouse taskforce**

### Co-organized a workshop on "Service and Application of SDI" with ISPRS WG4 in Hangzhou, China, Oct. 2005.

At the workshop, the APSDI Clearinghouse Taskforce coordinator introduced the status of APSDI clearinghouse portal and related problem.

### ESRI GIS Portal Toolkit Workshop for PCGIAP, Hong Kong

To promote the establishment of geo-spatial clearinghouse nodes in PCGIAP member countries, and the development of a geo-spatial portal of AP region, a 3-day GIS Portal Toolkit Workshop for PCGIAP was successfully organized in Hong Kong. Totally 13 participants from 6 PCGIAP members (China, Indonesia, Japan, Korea, Nepal, Malaysia) attended the workshop.

The ESRI GIS Portal Toolkit supports an organization in setting up a GIS portal that gives users access to geographic information, which consists of four modules: a portal framework, a map viewer, an administration tool, and a publication tool.

### Pilot project to establish clearinghouse of Iran

In order to establish a pilot project for geo-spatial clearinghouse network in Asia-Pacific, Iran as a PCGIAP member country and one of the nodes for this network, has accomplished a joint research project in cooperation with a local university. This research has led to the following outcomes:

- Oracle and Sqlserver were found to have enough merits for maintaining metadata
- MetaMaker 1.0 was designed as user interface for data entry and creating required tables for database.
- A user Interface was designed to make search operations possible.

### Questionnaire about Geospatial Portal

In order to evaluate the effect of the Hong Kong workshop and help to promote further activities, especially development of geospatial portal of Asia and the Pacific Area, a questionnaire form was distributed among the participants of Hong Kong workshop, and received responses from China, Indonesia, Japan, Korea, Malaysia, and Nepal. According to the responses, two countries have set up their geospatial portal, and all the rest are in consideration.

### Guideline for APSDI Clearinghouse Development

The PCGIAP's vision for the Asia-Pacific Spatial Data Infrastructure (APSDI) is to create a network of databases, located throughout the region, that together provide the fundamental data needed to achieve the region's economic, social, human resources development and environmental objectives. Guideline for APSDI Clearinghouse Development, Revision 1.2 has been prepared.

This specification gives step-by-step technical instructions for APSDI Clearinghouse node and gateway construction with the help of Isite2 and other complementary software package provided by the taskforce.

### Set up a gateway of APSDI clearinghouse

A gateway of APSDI clearinghouse has been set up at <http://nfgis.nsd.gov.cn/apsdi>. A node of Global Map China dataset (ISO19115 Metadata Standard) has also been set up with Isite2 and registered in it. Several nodes from FGDC clearinghouse are also registered in this gateway for test.

### *Initial APSDI Clearinghouse Portal*

An initial APSDI Clearinghouse Portal is to be set up by the end of August, 2006. After a long time investigation on existing commercial and non-commercial geo-portal software, open-source geo-portal software named Geo-network is selected to start the APSDI Clearinghouse Portal. Geo-network open-source is a Free and Open Source catalog application to manage spatially referenced resources based on the principles of Free and Open Source Software (FOSS) and International and Open Standards for services and protocols. It provides powerful metadata editing and search functions as well as an embedded interactive web map viewer. It is designed to enable access to geo-referenced databases, cartographic products and related metadata from a variety of sources, enhancing the spatial information exchange and sharing between organizations and their audience by the internet. Geo-network open-source is developed and supported by FAO, WFP and UNEP, it is widely used by many international organizations, including FAO, WFP, UNEP, WHO, OCHA, UNHCR, and many individual geo-spatial information projects.

### **3 Acknowledgments**

Working Group Members and other people interested in the WG activities have had major role in progress of the tasks and activities of WG2, and I extend my thanks to them and their host organizations.

### **4 Work Plan Summaries**

A list of activity work plan for 2006-2009 has been proposed in attachment 1.

## PCGIAP Working Group 2 on Regional Fundamental Data

### General, Work Plan for 2006 - 2009:

<b>No.</b>	<b>Project</b>	<b>Responsibility</b>	<b>Target Date</b>	<b>Comments</b>
1	Discuss cooperating with UN activities relating to WG2.	WG2 - Chair, Project Coordinators and other members	12 <sup>th</sup> PCGIAP Meeting	A report will also be prepared and delivered to the 17th UNRCC-AP meeting on what activities have been undertaken within the WG2.
2	Discuss how to establish cooperation with other International organizations like Asian Center for research on remote sensing (ARCRORS) , GSDI,ISO/TC211 and OPEN GIS	WG2 - Chair, Project Coordinators and other members	12 <sup>th</sup> PCGIAP Meeting	
3	Discuss how to assign a full-time experienced person for taskforces coordinators and a half a full-time person for members of the taskforces	EB members	To be discussed in 12 <sup>th</sup> PCGIAP meeting	
4	Encourage PCGIAP member nations to nominate a representative to the two taskforces	PCGIAP and secretariat		
5	Give a strong support to the taskforce coordinators in project plan and implementation	PCGIAP members		
6	Set up a taskforce and nominate a coordinator, for the implementation of the develop and implement a pilot project for the generation of a set of seamless data layers for the tsunami affected area	The EB and WG2 members and secretariat of PCGIAP	12 <sup>th</sup> PCGIAP Meeting	During the WG2 workshop, the delegate from Indonesia, Mr. Bebas Purnawan has shown his willing to lead the taskforce. China, Japan, Malaysia, Brunei,..., have expressed their support to Indonesia
7	set up a taskforce and nominate a coordinator, for implementing and developing a pilot project for generating a seamless Pan Asia-Pacific dataset using Global Maps and other Data Resources	The EB and WG2 members and secretariat of PCGIAP	12 <sup>th</sup> PCGIAP Meeting	PCGIAP members nominate coordinators and members for taskforce. Mrs Ji Xiaoyan presented a paper in related to this subject.

## PCGIAP Working Group 2 on Regional Fundamental Data

### Work Plan for APSDI Data Taskforce 2006 - 2009:

No.	Action	Responsibility	Target Date	Comments
1.	Keep promoting the members set up their own geospatial portals based on open standards.	Taskforce		
2.	Enlarge the coverage of the initial APSDI Clearinghouse portal	Taskforce		
3.	Nomination of APSDI Clearinghouse Taskforce member	WG2 members		The Clearinghouse Taskforce needs participation from PCGIAP member for its first phase of the implementation. The designated taskforce member will be in charge of the development or maintenance of its nation's geo-portal
4.	Hold technical training for APSDI clearinghouse development	PCGIAP members		PCGIAP need to offer the members more opportunities to obtain concerning technology with partners such as ESRI.

## PCGIAP Working Group 2 on Regional Fundamental Data

### Action Plan for Pan Asia-Pacific framework datasets Taskforce 2006 - 2009:

No.	Action	Responsibility	Target Date	Comments
1.	Preparing a strategic plan for the future APSDI framework data implementation which will justify the benefits of APSDI in such areas as security, trade, environment management, etc.		12 <sup>th</sup> meeting	
2.	Establishing a pilot project to create a seamless framework dataset across a number of neighborhood countries	Pan Asia-Pacific framework datasets Taskforce	13 <sup>th</sup> meeting	The precondition for performing this pilot project is that the some neighborhood countries in Asia and Pacific region have already completed their global map or they encourage to prepare their datasets required for the pilot
3.	Improving the draft technical specification for pan Asia-Pacific framework datasets by adopting and using ISO and other international standards	Pan Asia-Pacific framework datasets Taskforce	13 <sup>th</sup> Meeting	
4.	Hold training and workshop	PCGIAP Secretariat and WG2 members	To be discussed on 12 <sup>th</sup> PCGIAP meeting	
5.	Discuss how to enrich the regional fundamental data with existing statistics (population, economy, etc.)	WG2 - Chair, Project Coordinators and other members	14 <sup>th</sup> PCGIAP Meeting	